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ABSTRACT

One way in which the analysis of educational finance reform might be broadened to include an analysis of the fiscal effects of such reform is to show fiscal competition between large cities and their suburbs. It is not possible to say that "most central cities" or "most suburban areas" deserve a greater share of State educational aid. Rather, there appears to be significant variation among metropolitan areas in the relative fiscal position of the central city. School finance reform is not the only State policy that has potentially significant fiscal effects. For instance, the issuance of nonproperty taxes -- especially "commuter" taxes -- might play an equally important role. Evidence suggests that State aid to local education is already a pro-suburban program. A reform of school finance is likely to make the program even more pro-suburban. There is probably no one single optimal school fiance reform plan which can be applied uniformly everywhere. (Author/DN)

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A FISCAL PERSPECTIVE ON THE ANALYSIS OF SCHOOL FINANCE REFORM: THE CASE OF CITY-SUBURBAN COMPETITION*

By Lawrence H. Thompson**

I. Introduction

Even though we are all aware of the somewhat tenuous nature of the connection that researchers have been able to establish between local per pupil educational spending and any of the interesting and measurable results of the educational process, most of us have continued, I think, to look upon the movement to reform educational finance as if its most important impact were going to be its impact on the geographic distribution of educational benefits. Thus, when analyzing a particular school finance reform proposal, our usual approach has been to first estimate the impact that adoption of the proposal will have on the pattern of variations in local per pupil expenditures. Then, using this measure (or this measure as somehow adjusted for variations in "need," and/or "cost") as an approximation for actual educational benefit, we have analyzed the impact that the particular reform proposal is likely to have against our various notions of how educational benefits "ought" to be distributed.[1]

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**Policy Studies Division of the National Institute of Education. The views expressed in this paper are those of the author and do not necessarily reflect those of the Institute. The author wishes to express his appreciation to his research assistant, Debby Monroe, for her able assistance in conducting this analysis.

[1] Which notion may or may not include our adjustment in levels of benefit for those places wishing to make an extra "effort."

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I have no quarrel with these attempts to examine the impact of educational finance reform on the distribution of educational benefits. That particular question is an important one, and, even though our measures of educational benefit may not be particularly convincing, it is one that we should attempt to tackle in the best way we can. But I do think that for too long we have been ignoring several other potentially significant and important impacts that a reform of our educational finance system is likely to have. In particular, we have tended to ignore the fact that educational finance reform is likely to have a significant "fiscal" impact in addition to any "educational" impact it has.

Local education represents by far the single largest item of expenditure in the budgets of most local governments.[1] As a consequence, in most states the taxes levied to support local education are the single largest element in the entire local tax picture, and the way in which local educational tax burdens are distributed among the households of a state is, therefore, one of the most important of the factors determining the equity and efficiency of the entire local government finance system.

The available evidence suggests that only a portion of any new state aid passed out under an educational finance reform is likely to go into increased educational expenditures. The balance of the increased educational aid, indeed very possibly a majority of such increased aid, is likely to go either into financing local property

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[1] In fiscal 1970, local education accounted for roughly 45 percent of the total expenditures of local government. U.S. Bureau of the Census, Governmental Finances in 1969-70, GF 70, No. 5 (Washington: GPO, 1971).

tax relief or into financing increases in noneducational expenditures.[1] Thus, while educational finance reform will, to an extent, alter the geographic distribution of the benefits of local education, it will also alter some of the fundamental relationships currently existing among various localities in relative tax rates and tax burdens and in the quality and availability of all kinds of local public services. And such a fundamental alteration in the relative fiscal position of different local jurisdictions can, in turn, be expected to affect both the overall interpersonal distribution of state and local tax burdens and the patterns of economic development within a particular state.

In this paper I attempt to evaluate educational finance reform on the basis of its expected fiscal consequences. I shall do this by focusing the analysis on the impact that such reform is likely to have on one particular local fiscal problem, the problem of central city-suburban fiscal competition within our major metropolitan areas.

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[1] Recent studies suggest that a $1.00 increase in aid to education can be expected to produce an increase in educational expenditures of somewhere between $.25 and $.50. See, for instance, David Stern, "Effects of Alternative Formulas on the Distribution of Public School Expenditures," Review of Economics and Statistics, V. 55, No. 1 (February 1973), pp. 91-97 (his estimate is $.45 to $.55); Steve M. Barro, "The Impact of Federal Aid to States on Financial Support for the Public Schools," paper presented at the annual meeting of the American Educational Research Association, Chicago, April 1972 (his estimate is $.33); John Weicher, "Aid, Expenditures, and Local Government Structure," National Tax Journal, V. 25, No. 4 (December 1972) pp. 573-584 (his estimate is $.40); Edward M. Gramlich, "Alternative Federal Policies for Stimulating State and Local Expenditures: A Comparison of their Effects," National Tax Journal, V. 21, No. 2 (June 1968) pp. 119-129 (his estimate is $.28). Two

I hope first of all that the analysis contained in this paper will serve to illustrate how an analysis of the fiscal consequences of any particular reform proposal might be conducted. At the same time, however, I believe that the structuring of the analysis of this particular question in this particular way can give us several valuable insights into the question of big cities fare under school finance reform: It will allow us to establish criteria by which to judge whether a particular large city is "deserving" of additional aid, and if so, of how much additional aid; it will allow us to explore how noneducational aid interacts with educational aid to affect the fiscal position of large cities; and it will allow us to explore the way in which the impact of a given reform varies from one location to another.

II. Conceptual Framework

A. The Problem

The evidence suggests that many of our large central cities are becoming increasingly less prominent as either the location of the residences of the nonpoor or the sites for many kinds of business activity. In recent years, employment growth in central cities has tended to be far less robust than has employment growth in their

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[1] studies have also attempted to measure the impact of educational grants on noneducational expenditures. See Weicher, op. cit. and Edward M. Gramlich and Harvey Galper, "State and Local Fiscal Behavior and Federal Grant Policy," Brookings Papers on Economic Activity, 1973:1 pp. 15-65. Weicher finds that the responses of areas served by independent school districts does not differ significantly from those served by dependent school districts with respect to either the impact on educational spending or the impact on noneducational spending. He estimates that a $1.00 increase in aid to education will lead to an increase of some $.18 in noneducational expenditures.

suburbs and the average income of the persons who continue to live in central cities has, in many places, begun to trail rather significantly the average incomes of the persons living in their suburbs.[1]

There are, undoubtedly, a number of forces that are working to produce these trends. They may simply reflect the fact that most cities' boundaries are no longer extended to incorporate new development. They may also reflect shifts in consumer preferences, the results of constantly increasing average real incomes or alterations in the underlying economics of alternative metropolitan locations, all forces against which there is probably little justification for public sector intervention.[2]

But it is also possible to argue that these trends are, at least in part, the product of artificial incentives introduced into the metropolitan location decision process by current institutions of local public finance. And, it is also quite possible

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[1] For one of the best compilations of currently available data on center city-suburban demographic and fiscal positions, see Advisory Commission on Intergovernmental Relations, City Financial Emergencies: The Intergovernmental Dimension (Washington: GPO, 1973).

[2] For an analysis of how present population location trends may, indeed, be nothing more than a continuation of past trends in city residential location, see Edwin S. Mills, "Urban Density, Functions," Urban Studies, V. 7, No. 1 (February 1970), pp. 5-20. For an analysis of how urban growth can lead quite naturally to a disparity between the average income of central city residents and the average income of residents of the outlying areas, see Richard F. Muth, Cities and Housing, (Chicago: University of Chicago Press, 1969). For an analysis of the impact of the

that, regardless of their cause, these trends are themselves producing significant inequities in the distribution among households living at different locations within a given metropolitan area of the costs of local public services.

Put rather briefly, the argument that local fiscal institutions are creating an artificial incentive for suburbanization rests on the presumption that the taxes a household or business firm has to pay for a given set of public services are lower in the suburbs than in the central city. The usual argument postulates that much of the explanation for this discrepancy in tax rates and burdens lies in the fact that central city residents must bear the extra costs of financing services to concentrations of poor persons and to suburban commuters, costs which households and business need not help finance if they only move to the suburbs. Thus, the argument goes, there is a tax differential that encourages intrametropolitan migration to the suburbs, and it arises only because suburbanites don't pay their fair share of the costs of city services, including their fair share of the cost of subsidizing those public services delivered to the poor.[1]

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recent "revolution" in urban transportation methods on metropolitan business and residential location, see John Meyer, John Kain, and Martin Wohl, The Urban Transportation Problem, (Cambridge: Harvard University Press, 1965).

[1] For a more elegant statement of this particular argument--and of how the process may actually feed upon itself--see William J. Baumol, "Urban Services: Interaction of Public and Prive Decisions," in Howard G. Schaller (ed.), Public Expenditure Decisions in the Urban Community (Baltimore: Johns Hopkins Press, 1962), pp. 1-18. There have also been at least two attempts to empirically test the power of fiscal incentives such as those just discussed in explaining population movements within metropolitan areas, with each concluding (subject to its own limitations) that the fiscal incentive was, in

The argument that local fiscal institutions are creating inequities in the distribution of the costs and benefits of the local public services delivered in a metropolitan area rests, essentially, on the same presumption of relatively higher central city taxes. In this case, however, attention is focused on the inequity of the higher tax burden imposed on those who, for one reason or another, can not move out of the central city rather than on the inefficiency produced by the movement to the suburbs of those who can move.[1] For if, as was postulated earlier, central city tax rates must rise relative to suburban tax rates, then households not able to leave the central city must pay more for their public services than do other households alike in every respect except for their ability to take up suburban residence.

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fact, an important determinant of location. See David F. Bradford and Harry H. Kelejian, "An Econometric Model of the Flight to the Suburbs," Journal of Political Economy, V. 81, No. 3, (May/June 1973), pp. 566-589 and J. Richard Aronson and Eli Schwartz, "Financing Public Goods and the Distribution of Population in a System of Local Governments," National Tax Journal, V. 26, No. 2 (June 1973), pp. 137-160.

[1] Although moving costs may be a problem to some, in general, those households easily able to leave the central city but not doing so in response to the postulated differential between central city and suburban tax rates cannot be considered to be "victims" of the tax rate differential. Their problem is that they've lost some of their consumer surplus.

B. Two Objectives for the Analysis of School Finance Reform

To the extent that one can show the presence of the fiscal incentives and inequities postulated above, one can, it seems to me, make a good case for public policy intervention. Such intervention would be designed to remove any artificial incentive encouraging intrametropolitan migration present in current local fiscal arrangements and to offset any current intrametropolitan fiscal inequities.

If one accepts the proposition that, whether they are intended or not, school finance reform is likely to have fiscal effects that are as large as--or even larger than--any of its, educational effects, then school finance reform should be viewed as one such intervention. By influencing the relationship between central city and suburban tax rates, it will affect the degree to which there is a fiscal incentive encouraging suburbanization and the degree to which central city and suburban residents share equitably in the costs of local public services.

The viewing of school finance reform as a program likely to affect the rate of suburbanization (or the fiscal consequences of suburbanization) allows us to develop a set of criteria by which we can judge whether the impact of a given school finance reform proposal is "favorable" or "unfavorable." Essentially, the proposal can be said to have a favorable impact: (1) if it appears

that its adoption will work to promote fiscal neutrality as between locating a business or residence in the city and locating it in the suburbs, or (2) if it appears that its adoption will work to promote a more equitable distribution of the costs of local public services as between those households living in the city and those living in its suburbs. The proposal can be said to have an "unfavorable" impact if it appears that its adoption would detract from fiscal neutrality or promote inequity.

C. Analytic Strategy

The analysis that is reported on in this paper was carried out in a rather straightforward manner. The necessary data were gathered on the central cities and suburbs of the twenty-four largest metropolitan areas for which all of the requisite data were available.[1] Then, using procedures to be discussed below, two indices of fiscal impact were computed, one applicable to the question of whether or not there was fiscal neutrality and the other applicable either to the neutrality question or to the equity question.

What remained, then, was to establish what the world looked like according to each indicator at the time for which the data

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[1] Where some of the suburbs of a central city are located in a different state, these suburban areas were excluded from the analysis. This was to insure that differences arising from differences in the division of responsibilities between the state and local levels of governments do not creep into the analysis.

applied and to simulate several variant plans for reforming state aid to see what their impact might have been according to each of the indicators. The data apply to Fiscal Year 1967, which, unfortunately, is the most recent year for which all of the necessary data is available.

Although rather straightforward at an abstract level, the task of actually developing an operational indicator of either fiscal neutrality or equity is a rather difficult empirical undertaking.

What one would like to be able to construct for a study of the neutrality question is a set of indicators applicable to the various groups of location decision-makers which will show whether the package of public service costs and benefits associated with locating in the central city is more or less attractive than is that associated with locating in a competing suburban jurisdiction. Neutrality could then be established when the indicators showed the two packages to be roughly comparable.

Several rather fundamental problems almost always prevent one, however, from actually being able to construct such indicators. Chief among these is the almost intractable problem of how one actually could go about measuring the quality of (to say nothing of estimating the value of) many publicly supplied services. What one frequently is left with, then--and what this study will focus

on--is a comparison of estimates of only the public service costs associated with locating in any one particular jurisdiction.[1]

For purposes of analyzing the extent to which fiscal systems are not neutral, and therefore offer an incentive for locational shifts, I have selected two separate indicators. One is intended to show the direction of any fiscal incentives for business locational shifts and the other is intended to show the direction of any incentives for residential locational shifts.

The indicator for businesses is simply the estimated total effective property tax rate (i.e., all property taxes collected in the jurisdiction expressed as a percentage of the estimated total market value of taxable property located there). If the estimated total effective rate is higher in the central city, than is the

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[1] When one draws conclusions about the relative fiscal attractiveness of a given jurisdiction by examining only the cost side of the public service package, one is making the implicit assumption that the benefits to be obtained are equal in each place. Such an assumption is probably untenable in cases where one is comparing urban areas to rural areas or urban areas in one state or region to those in another. The ignoring of benefits may not, however, be quite as blatent a shortcoming in cases where one is comparing a major city to its own suburbs. At least in this case, traditions about what role the local public sector should assume will be common to both jurisdictions as will the divisions of responsibility between state and local levels of government. Moreover, although our conventional assumption has been that local schools in middle or upper middle class suburban neighborhoods are of a higher quality than are local schools in similar central city areas, this advantage to suburban living may well be offset by the availability of a greater scope (or quality) of some services such as police, fire, public ambulance, garbage collection, etc. in the central city.

average effective total suburban rate, this is then taken as an indication of a fiscal incentive for many businessmen to locate new facilities in the suburbs rather than in the central city. If the effective total central city rate is lower than the effective total suburban rate, that will be taken as evidence of a fiscal incentive for businessmen to locate new facilities in the central city.[1]

The indicator for residential location incentives is a relatively crude estimate of the actual burden on those households living in either the central city or its suburbs of those taxes whose burden can be expected to vary as a result of an intrametropolitan move. I call the indicator "variable tax burden" to denote the fact that it does not attempt to measure the burden of all taxes paid by residents of either locale, but only those taxes whose burden might vary depending on intrametropolitan location.

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[1] The implicit assumptions involved in using this indicator include the assumption that the local property tax represents the only (or at least the very predominant) source of differential tax burdens encountered by a business in changing from central city to suburban location. They also include the assumption that the cost of constructing a given new facility, exclusive of the cost of acquiring and clearing the site is roughly the same in the two competing locations. If this is the case, then differences in the effective tax rate levied at the different sites will be the only source of a difference in the portion of the property tax bill that is attributable to the ownership of the facility itself. There may well also be differences between a central city and suburban location in the site value of the land upon which the facility stands, and therefore, in the total dollar volume of property taxes remitted annually at a given property tax rate. But any such differential in the dollar volume of taxes levied on the value of the unimproved land will presumably be capitalized into the value of the land at the time of its acquisition, and will, therefore, not affect a business's location decision.

The indicator was constructed by summing for each jurisdiction estimates of the following magnitudes: (1) Property taxes collected from residential property located within the jurisdiction; (2) That portion of any local sales or income tax levied by the jurisdiction which was collected from the residents of the jurisdiction; (3) That portion of any local sales or income tax levied by another metropolitan jurisdiction that was collected from the residents of the jurisdiction in question; and (4) All other taxes collected by the jurisdiction.[1] This sum, the estimate of the total amount of taxes levied by metropolitan jurisdictions which would be borne differentially by households depending on which jurisdiction they resided in, was divided

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[1] This sum differs from total taxes collected in just two ways. First, the portion of property taxes collected from nonresidential property has been excluded entirely from this portion of the analysis. Second, those local sales and income taxes which, according to the estimating procedure, were not actually paid by residents of the particular jurisdiction were excluded from the total, whereas those local sales and income taxes which, according to the estimating procedure, were paid by residents to jurisdictions other than the one in question were included. A more detailed discussion of estimating procedures may be found in the Appendix. The property taxes collected from nonresidential property were ignored in computing the index of differential burden on the assumption that the burden of these taxes would be distributed around the nation, state or metropolitan area largely without regard to whether or not the household ultimately bearing the burden of the tax resided in the same jurisdiction as had collected the tax. To the extent such taxes are shifted backwards on to profits, they will not affect anyone's residential location decision; they will affect investment decisions, a matter covered by the first indicator. Business property taxes can produce a differentially higher tax burden on those residents of the jurisdiction levying them only to the the extent that the firms being taxed: (1) Sell their goods primarily to residents of the same jurisdiction in which each of their facilities is located; (2) Sell in a market where convenience of location is so important that a firm located in one jurisdiction can charge a different

by an estimate of the 1967 total personal income of residents of the particular jurisdiction to produce the measure of variable burden. If the indicator is higher in the central city than in its suburbs, this will then be taken as evidence of an incentive for households to leave the central city and relocate in the suburbs. If the indicator is higher for the suburbs than for the central city, this will then be taken as evidence of an incentive to leave the suburbs and move to the central city.

The "variable burden" indicator is the indicator which will be used for two purposes. It is, after all, nothing more than an estimate of how personal tax burdens arising from a given set of taxes vary between city and suburb. Thus, while it will be used as an indicator of the direction and magnitude of any fiscal incentive for residential locational shifts, it will also be used as a measure of whether, for those households who find that they cannot change residential locations, local fiscal arrangements are resulting in the imposition of an inequitable distribution of the local tax burden.[1]

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price than is charged by a competing firm located in a neighboring jurisdiction; and/or (3) Where the firm, if a chain operating throughout the metropolitan area, adopts a policy of charging different prices in different metropolitan locations.

[1] Actually, the indicator is probably better suited for the equity question than for the locational (efficiency) question. The use of the comparison of central city to suburban burdens as a locational indicator implicitly assumes that a household that changes location will, at the time of the move, stop behaving like the "average" household at the old location and start behaving like the "average" household at the new location, an unlikely eventuality. When used as an equity indicator, though, it merely assumes that what is important is the burden on the "average" household in each class (in this case, location), a rather standard public finance assumption.

III. Some Results of the Analysis

A. The "Current" Situation

Tables 1 and 2 contain estimates of the actual effective property tax rates and "variable" personal tax burdens prevailing in fiscal 1967 in the central cities and suburbs of the 24 metropolitan areas contained in the sample.[1] Education tax rates and "variable" burdens are shown separately from noneducational tax rates and burdens, and estimates are presented for each of the central cities and suburban areas contained in the sample.[2]

There are, I think, three important insights to be gained from the data contained in Tables 1 and 2.

First, these data reveal that, taken as a group, large central cities did appear to be at a slight fiscal disadvantage vis a vis their suburbs, but the size of that disadvantage does not appear

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[1] In each case the taxes levied by all overlying county and special district governments have been divided between the city and its suburbs so that the estimates shown represent estimates of all local taxes paid by residents of (or business located in) each place, regardless of the actual type of local government to which they were paid. Where school district lines do not coincide with the central city's boundaries, the school district taxes were adjusted to the level they would have been had the boundaries been the same. More detailed descriptions of all of these adjustments can be found in the Appendix.

[2] Although I have displayed the results of this analysis for each of the central cities and its suburbs contained in the sample, I have done so not without some misgivings. All of these estimates are based on published, nationally comparable data, and as a consequence, some of the estimated magnitudes that underlie this analysis--especially those of the market value of taxable property and of the extent of tax shifting--are fairly crude. While I believe them to represent the best estimates that it is possible to make in a consistent manner across a wide range of cities, and while I believe them to give a fairly accurate representation of the

TABLE 1 - Estimated Actual Effective Property Tax Rates, Selected Large Cities and Their Suburbs, Fiscal 1967

(Percent)

City	Education			Non-Education			Total		
	1 cc	2 Sub	3 Diff	cc	Sub	Diff	cc	Sub	Diff
Philadelphia	1.26	1.36	-0.10	1.44	0.63	0.81	2.70	1.99	0.71
Pittsburgh	0.77	1.15	-0.38	1.62	0.98	0.64	2.39	2.14	0.25
East (Penn.)[4]	1.01	1.26	-0.24	1.53	0.81	0.72	2.54	2.06	0.48
Akron	1.09	1.12	-0.03	0.55	0.39	0.16	1.64	1.51	0.12
Cincinnati	0.96	1.06	-0.10	0.88	0.42	0.46	1.84	1.48	0.36
Cleveland	0.81	1.12	-0.31	0.94	0.56	0.37	1.75	1.68	0.07
Columbus	0.98	1.11	-0.12	0.38	0.38	-0.00	1.37	1.49	-0.12
Dayton	1.06	1.11	-0.04	0.59	0.60	-0.00	1.66	1.70	-0.05
Chicago	0.74	1.12	-0.38	0.98	0.56	0.42	1.72	1.68	0.04
Gary	1.13	0.93	0.20	1.08	0.70	0.38	2.21	1.63	0.58
Hammond	1.54	0.93	0.60	1.11	0.70	0.41	2.64	1.63	1.01
Kansas City, Kan.	0.68	1.05	-0.37	1.03	0.55	0.48	1.70	1.60	0.11
Kansas City, Mo.	0.84	1.06	-0.22	0.64	1.06	-0.42	1.47	2.12	-0.64
St. Louis	0.86	1.22	-0.38	0.82	0.58	0.24	1.68	1.80	-0.12
Minneapolis	0.72	1.47	-0.76	1.29	0.85	0.44	2.01	2.32	-0.32
St. Paul	0.65	1.47	-0.83	1.36	0.85	0.52	2.01	2.32	-0.31
Midwest[4]	0.93	1.12	-0.19	0.90	0.60	0.30	1.82	1.73	0.09
Birmingham	0.18	0.47	-0.29	0.52	0.29	0.22	0.70	0.77	-0.07
Little Rock	0.74	0.86	-0.12	0.15	0.19	-0.04	0.89	1.05	-0.16
New Orleans	0.36	0.08	0.28	0.58	0.30	0.28	0.94	0.38	0.56
South[4]	0.43	0.47	-0.05	0.42	0.26	0.16	0.84	0.73	0.11
Anaheim	0.91	0.91	0.00	0.86	0.80	0.06	1.77	1.71	0.06
Santa Ana	0.70	0.91	-0.21	0.87	0.80	0.07	1.58	1.71	-0.14
Los Angeles	0.76	0.93	-0.18	1.06	0.79	0.28	1.82	1.72	0.10
Long Beach	0.72	0.93	-0.21	0.93	0.79	0.14	1.65	1.72	-0.07
Sacramento	0.92	1.11	-0.19	1.28	0.78	0.50	2.20	1.89	0.31
San Diego	1.02	1.04	-0.02	1.09	0.80	0.30	2.11	1.84	0.27
San Francisco	0.29	1.04	-0.74	0.89	0.70	0.19	1.19	1.74	-0.55
Oakland	0.62	1.04	-0.42	1.01	0.70	0.31	1.63	1.74	-0.11
Denver	1.35	1.51	-0.16	0.76	0.80	-0.04	2.11	2.32	-0.20
Salt Lake City	0.74	0.84	-0.10	0.78	0.42	0.36	1.51	1.26	0.26
Seattle	0.53	0.64	-0.11	0.58	0.35	0.23	1.11	0.99	0.12
West[4]	0.78	1.00	-0.22	0.92	0.68	0.24	1.70	1.68	0.02
U.S. Total[4]	0.82	1.01	-0.19	0.90	0.60	0.30	1.72	1.62	0.10

FOOTNOTES

[1] Central City

[2] Average rate in suburban counties

[3] Difference (Central City less Suburbs). May not reflect differences in numbers shown due to rounding.

[4] Simple average of the number of independent observations in each class.

Procedures for computing the figures in this table are explained in Appendix 1.

TABLE 2 - Estimated Actual Variable Burden of Personal Taxes, Selected Large Cities and Their Suburbs, Fiscal 1967

(Percent)

City	Education			Non-Education			Total		
	1 cc	2 Sub	3 Diff	cc	Sub	Diff	cc	Sub	Diff
Philadelphia	1.35	2.16	-0.81	3.63	1.40	2.23	4.97	3.56	1.41
Pittsburgh	1.17	1.94	-0.77	2.68	1.79	0.89	3.85	3.73	0.12
East (Penn.)[4]	1.26	2.05	-.79	3.15	1.59	1.56	4.41	3.64	0.77
Akron	1.57	1.75	-0.18	1.81	1.22	0.59	3.38	2.97	0.41
Cincinnati	1.25	1.74	-0.49	2.29	1.48	0.81	3.54	3.22	0.32
Cleveland	0.84	1.90	-1.06	1.17	1.11	0.06	2.02	3.01	-0.99
Columbus	1.38	1.79	-0.41	1.55	1.39	0.16	2.93	3.18	-0.25
Dayton	1.66	1.49	0.17	2.00	1.40	0.60	3.66	2.89	0.78
Chicago	0.95	1.79	-0.84	2.44	1.28	1.16	3.39	3.07	0.32
Gary	1.21	1.42	-0.21	1.20	1.10	0.10	2.41	2.52	-0.11
Hammond	1.58	1.42	0.16	1.18	1.10	0.08	2.76	2.52	0.24
Kansas City, Kan.	0.84	1.56	-0.72	1.68	1.11	0.57	2.52	2.67	-0.15
Kansas City, Mo.	0.97	1.39	-0.42	2.27	1.95	0.32	3.24	3.34	-0.10
St. Louis	0.97	1.78	-0.81	3.25	1.40	1.85	4.22	3.19	1.04
Minneapolis	0.81	2.29	-1.48	1.67	1.41	0.57	2.48	3.70	-1.22
St. Paul	0.84	2.29	-1.45	2.26	1.41	0.85	3.10	3.70	-0.60
Midwest[4]	1.15	1.72	-0.57	1.91	1.35	0.56	3.05	3.07	-0.02
Birmingham	0.22	0.60	-0.38	2.76	1.81	0.95	2.98	2.42	0.56
Little Rock	1.23	1.02	.21	0.74	0.39	0.35	1.97	1.41	0.56
New Orleans	1.13	0.22	.91	2.15	1.92	0.23	3.27	2.14	1.13
South[4]	0.86	0.62	.24	1.88	1.38	0.50	2.74	1.99	0.75
Anaheim	1.75	1.93	-0.18	2.56	2.45	0.11	4.31	4.38	-0.07
Santa Ana	1.37	1.93	-0.56	2.47	2.45	0.02	3.84	4.38	-0.54
Los Angeles	1.17	2.31	-1.14	2.91	2.71	0.20	4.07	5.01	-0.94
Long Beach	1.58	2.31	-0.73	3.02	2.71	0.31	4.60	5.01	-0.41
Sacramento	1.79	2.19	-0.40	3.31	2.48	0.83	5.10	4.67	0.43
San Diego	1.36	1.86	-0.50	2.29	1.94	0.35	3.65	3.80	-0.15
San Francisco	0.73	2.20	-1.47	3.04	2.18	0.86	3.77	4.38	-0.61
Oakland	1.15	2.20	-1.05	2.66	2.18	0.48	3.81	4.38	-0.56
Denver	1.68	2.16	-0.48	2.24	1.50	0.74	3.92	3.66	0.26
Salt Lake City	1.02	1.47	-0.45	1.92	1.16	0.76	2.95	2.63	0.32
Seattle	0.82	1.09	-0.27	1.86	0.98	0.88	2.69	2.07	0.62
West[4]	1.31	1.90	-0.59	2.57	1.92	0.65	3.88	3.82	0.06
U.S. Total[4]	1.19	1.67	-0.48	2.24	1.57	0.67	3.43	3.23	0.20

FOOTNOTES

[1]Central City

[2]Average rate in suburban counties

[3]Difference (Central City less Suburbs). May not reflect differences in numbers shown due to rounding.

[4]Simple average of the number of independent observations in each class.

Procedures for computing the figures in this table are explained in Appendix I.

to have been nearly as great as some of the literature on our "dying" central cities might have lead one to suppose.[1]

According to the data in Table 1, the average effective total property tax rate in the 29 central cities was 1.72 percent, while the average effective total property tax rate in the 24 suburban areas was 1.62 percent. The difference was 0.1 percentage points, enough to have caused your tax bill to rise by $1 for each $1000 in the market value of the property you owned, or enough to have caused your total property tax bill to be some six percent higher if you were located in the "average" central city rather than in the "average" suburb. Although a differential of this magnitude may well have affected the location decisions of some business firms, it is hard to believe that such a differential could be called a major factor in causing past business activity locational shifts.

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of the situation in general, I do not believe that they necessarily represent the most accurate possible estimate of the situation in any one particular metropolitan area.

[1] Although it's slightly off the topic, the data also reveal a fairly universally superior ability on the part of most central cities to export their local tax burdens. The evidence suggests that per capita total central city tax collections are almost always higher than are per capita total suburban tax collections. (See, for instance, ACIR, op. cit.). The estimates presented here, however, do not show such a significant and consistent tendency for central city tax rates to exceed suburban tax rates or for tax burdens on central city residents to exceed those on suburban residents. Apparently the explanation lies in the ability of many central cities to export enough of their tax burden to offset the impact of their higher per capita total tax collections. There are at least

The estimates of variable personal tax burdens that are contained in Table 2 reveal a similar pattern. Over the entire sample, the average variable burden amounted to 3.43 percent of income in central cities and 3.23 percent of income in suburbs. Translated into dollar taxes, this means that for a family having a total income at three times the average per capita central city level, some $9,987, the total "saving" in taxes that would have been associated with moving to the suburbs would have been just under $20 per year.

The fact that estimates of average central city and suburban tax rates and tax burdens may not indicate the presence of a consistent and significant fiscal incentive for suburbanization throughout the entire sample can not, however, be taken as evidence that such an incentive was not present to a significant degree in certain large metropolitan areas. For a second important insight to be gained from the data in Tables 1 and 2 is that there appeared to be a great deal of variation from place to place in the degree and direction of intrametropolitan fiscal locational incentives.

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two other places where one can find results that are consistent with those presented here. The ACIR reports that when comparing measure of "tax effort"--a similar though not identical concept to the ones used here--they found eight central cities that were making a greater effort, six that were making a lesser effort, and one tie. See Advisory Commission on Intergovernmental Relations, Measuring the Fiscal Capacity and Effort of State and Local Areas, (Washington: GPO, 1971), Table A-4, p. 94. In a recent study of Baltimore City's fiscal situation, it was estimated that although the city's effective property tax rate was roughly the same as was the total burden of local taxes borne by residents of its suburbs. See William H. Oakland, "Using the Property Tax to Pay for City Government: A Case Study of Baltimore," in George Peterson (ed.), Property Tax Reform (Washington: The Urban Institute, 1973), pp. 141-174.

Of the total of 29 central cities continued in the sample, there were 16 in which the estimated central city effective property tax rate exceeded the estimated suburban effective property tax rate. The margin by which it did--and therefore the strength of the incentive it provided for suburbanization--ranged from almost nothing in Chicago and Cleveland to something over 0.5 percentage points in New Orleans and Gary and even more in Philadelphia and Hammond.

For the purposes of this discussion, I have arbitrarily concluded that a difference of 0.30 percentage points between central city and suburban property tax rates should be considered to be a "significant" difference, one worth worrying about. According to this standard, this sample contained six central cities with significantly higher property tax rates. In addition to the four mentioned above, Cincinnati and Sacramento qualified under this definition.

At the same time though, of the total of 29 central cities contined in the sample, there were 13 with lower effective total property tax rates than those prevailing in their suburbs, a number only three less than the number finding themselves in the opposite position. In these 13 cities, my indicator of the fiscal incentives for business locational decisions seemed to indicate an incentive against suburban location and in favor of central city location. Furthermore, there appeared to be at least four cases, Minneapolis, St. Paul, San Francisco (but not Oakland) and Kansas

City, Missouri, in which one might have concluded that there was a "significant" incentive against suburbanization, for in each of these metropolitan areas the effective suburban property tax appeared to exceed the effective central city tax rate by more than 0.3 percentage points.

An examination of the city by city estimates of variable personal tax burdens, my indicator for either residential locational incentive (for those people who can move) or intrametropolitan tax equity (for those who can not move), reveals a similar variation in degree and direction.

As was the case with the property tax rate comparison, the comparison of variable personal tax burdens show that there were 16 central cities in which the estimated central city burden appeared to be greater than the estimated suburban burden and 13 central cities where it appeared to be lower. Using an utterly arbitrary definition of 0.75 percentage points or greater as the difference that is "significant" on this indicator, we find that four central cities, Philadelphia, St. Louis, Dayton, and New Orleans had significant incentives for residential suburbanization. At the same time, however, we also find three suburban areas, those of Cleveland, Los Angeles, and of Minneapolis-St. Paul (at least vis a vis Minneapolis) that generated a significant incentive against residential suburbanization.

The fiscal objective enunciated earlier in this paper was one of intrametropolitan locational neutrality. Based on these estimates, we may apparently conclude that in some metropolitan areas the promotion of such neutrality would have required a policy that rather dramatically improved the fiscal position of the city relative to that of its suburbs. But these data also show that there were other metropolitan areas where promotion of fiscal neutrality appeared to require a policy designed to improve the fiscal position of the suburbs relative to that of the city. And there appeared to be still a third set of metropolitan areas where, for all intents and purposes, neutrality already existed., so that the need was not for policies to improve the position of one portion of the metropolitan area relative to that of another, but rather it is for policies that--in addition to whatever else they did--preserved the substantial neutrality of the prevailing fiscal arrangements.

The third insight which I think can be gained from an examination of the data in Tables 1 and 2 relates to the relationship between city and suburb in the relative burden of financing educational and noneducational expenditures. As one looks down the columns in these two tables, one finds that in almost every metropolitan area the estimate of the noneducational tax rate and tax burden was higher in the central city than in the suburbs while the estimate of the

educational tax rate and tax burden was almost always higher in the suburbs. It is apparently this phenomenon--and the basic causal factors that underlie it--which provides a good part of the explanation for why the estimates of the differential between central cities and suburban total tax rates and total variable tax burdens did not appear to be nearly as great as one might have imagined.

Basically, what appears to have happened in most metropolitan areas is that populations have sorted themselves out between central city and suburb so as to impose not one, but two kinds of unusually heavy local fiscal burdens. As has been hypothesized, central cities do apparently have consistently greater noneducational tax burdens, arising, no doubt, at least in part from the presence of an unusually large number of the metropolitan poor and from the need to provide services to suburban commuters. But apparently the suburbs have their own unique fiscal problem: unusually high concentrations of school age children.

Although there is a fair amount of variation within the sample, the averages across the cities and suburbs contained in the sample will serve to demonstrate the essential suburban problem. In fiscal 1967, the suburban portions of these twenty-four metropolitan areas averaged 27 public school pupils for each 100 residents, while the central city portions averaged only 20. The comparable state wide average for the metropolitan areas contained in this sample was 24 public school pupils for each 100 residents.

Because of the relatively high concentration of public school pupils in the suburbs, the effort required to raise a given level of local revenue per pupil was a good deal greater in the suburbs than it was in the central cities.[1] And as a result of this, suburban educational tax rates and tax burdens had to rise above comparable central city educational tax rates and tax burdens, a rise that appeared to offset--in some cases only partially but in other cases completely--the higher noneducational tax rates and tax burdens found in central cities.

What we appear to find, then, when we look at tax rates and tax burdens divided according to whether they arise from the financing of educational expenditures or from the financing of non-educational expenditures is that present metropolitan fiscal arrangements seem to introduce some degree of natural balance into metropolitan government finance: they result in an unusually high central city burden arising from the fiscal problems associated with financing noneducational expenditures and an offsetting unusually high suburban burden arising from the fiscal problems associated with financing educational expenditures. They do not, however, necessarily produce a perfect balance, for apparently the suburban offset is too great in some metropolitan areas but not great enough in others.

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[1] Indeed, in this sample of 24 metropolitan areas, significantly higher suburban education "variable" tax burdens (1.67 percent of income in the suburbs as compared to 1.19 percent of income in the central cities) were actually associated with significantly lower suburban per pupil educational tax revenues ($298 per pupil in the suburbs as compared to $371 per pupil in the central cities).

B. The Impact of State Aid on Metropolitan Fiscal Balance

As was noted earlier, state aid to education represents one important policy tool for affecting the degree and direction of intrametropolitan fiscal locational incentives. The same is obviously also true for state aid for noneducational purposes.

State aid is typically passed out by functional area and within each functional area is typically divided among localities according to some measure of need. The aggregate impact of all state aid on relative tax rates and tax burdens depends on essentially two different kinds of considerations. The first of these is the geographic distribution of the aid that is provided under a given program. The second of these is the relative magnitude of each of the different aid programs.

In the last analysis, the question of how a particular state aid program impacts on the tax rates and burdens in a particular city is an empirical question. It should be possible, however, to make certain generalizations about how programs of aid for various purposes are likely to impact various types of communities.

State aid given for one particular local governmental function is likely to help most those jurisdictions experiencing the greatest relative "need"--or, if you like, the greatest relative demand--for those particular services. State aid for local welfare and welfare-related activities is most likely going to help large cities far more than it helps their suburbs, for it is the large cities where the concentrations of the welfare populations live. On the other

hand, as we have already seen, the places where concentrations of local school population are found is quite clearly not in large cities; it is usually in their suburbs. For this reason, state aid for education is most likely going to help the suburbs more than it does the central cities.

To the extent that these generalizations hold, then, we ought to be able to draw certain conclusions about the likely impact of state aid on metropolitan fiscal balance. Basically, we should expect that increases in state aid to education will, in most places, be pro-suburban. They will serve to improve the fiscal position of most suburban areas relative to their central cities by relieving one of the few local fiscal burdens that most suburbs appear to bear relatively more heavily than do most central cities. On the other hand, depending in part upon the particular noneducational functions being aided, we should expect that increases in noneducational aid will be pro-central city. These aid increases will serve to relieve the type of local fiscal burden that most central cities appear to bear relatively more heavily than do most suburbs.

Several recent studies of the likely impact of school finance reform on large cities tend to support the observation.[1] Basically,

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[1] See, for instance, Joel S. Berke and John J. Calahan, "Serano vs. Priest: Milestone or Milestone for School Finance Reform?" Journal of Public Law, V. 21, No. 1, 1972, pp. 23-69; Betsy Levin, Public School Finance: Present Disparities and Fiscal Alternatives, Vol. and II, Report Prepared for the President's Commission on School Finance, January 1972; Betsy Levin, et. al., Paying for

they show rather clearly that the currently popular programs of reform result in shifting money away from most central cities, increasing their tax rates (and/or lowering their education--expenditure levels) vis a vis tax rates (and expenditure levels) in their suburbs. It is possible to show that this is also the impact of current state education aid arrangements.

One way to evaluate the impact that current state aid arrangements have on metropolitan fiscal balance is to examine how the withdrawal of that aid could have been expected to affect relative tax rates and tax burdens. The data shown in Table 3 represent one such attempt, and serve to illustrate how the impact of aid for noneducational purposes tends to differ from the impact of aid for educational purposes.

For the purposes of this exercise, I assumed that all state aid received in fiscal 1967 by the central city and suburbs contained in my sample was withdrawn. I further assumed that in reaction to this withdrawal of state aid, each jurisdiction increased its property tax collections by an amount equal to 65 percent of the lost aid. (The other 35 percent was assumed to have been absorbed through lowered expenditures.) In Table 3, I present the impact on the "average" central city and the "average" suburb contained in the sample.

Public Schools: Issues of School Finance in California, (Washington: The Urban Institute, 1972; and John J. Callaha, William H. Wilken, and M. Tracy Silberman, Urban Schools and School Finance Reform: Promise and Reality, (Washington, The Urban Coalition, 1974).

Table 3

Estimated Effective Property Tax Rates and Variable Tax Burdens Prevailing in the Absence of State Aid[1] Selected Large Cities and Their Suburbs Fiscal 1967 (Percent)

	Estimated Actual			If All State Noneducation Aid Abolished			If All State Education Aid Abolished			If All State Aid Abolished		
	CC[2]	SUB[3]	DIFF[4]	CC	SUB	DIFF	CC	SUB	DIFF	CC	SUB	DIFF
1. Effective Property Tax Rate	1.72	1.62	+.10	2.01	1.83	+.18	2.00	2.08	-.08	2.29	2.29	.00
Change in Property Tax Rate	--	--	--	+.29	+.21	+.08	+.28	+.46	-.18	+.57	+.67	-.10
2. Variable Total Tax Burden	3.43	3.23	+.20	3.86	3.59	+.27	3.83	3.95	-.12	4.25	4.31	-.06
Change in Total Tax Burden	--	--	--	+.43	+.36	+.07	+.40	+.72	-.32	+.82	+1.08	-.26

[1] Assuming 65 percent of lost aid replaced with increased property taxes and 35 percent of lost aid absorbed through lowered expenditures.

[2] Arithmetic average of 29 Central Cities

[3] Arithmetic average of 24 Suburban Areas

[4] Central City average less Suburban average

The data in Table 3 seem to indicate that, on the whole, state aid for noneducational purposes had a slightly pro-central city impact.[1] This can be seen by noting that had state aid for noneducational purposes been withdrawn in the way assumed here, the average central city property tax rate and variable tax burden would apparently have risen by more than the average suburban tax rate and burden would have risen. Thus, the presence of state aid for noneducational purposes seemed to serve to reduce central city tax rates and burdens by slightly more than it reduced suburban tax rates and burdens, improving slightly the competitive position of the "average" central city.[2]

On the other hand, state aid for local educational purposes seemed to have a fairly significant pro-suburban impact.[3] The estimates show that the apparent impact of such aid was to reduce

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[1] There were five (of twenty-nine) central cities where a withdrawal of such aid caused a smaller property tax rate increase than was simultaneously occurring in their suburbs and nine where it caused a smaller increase in variable tax burden.

[2] The fact that state noneducational aid did not have a more pro-central city impact than it appeared to have can probably be traced to the fact that states have traditionally chosen to not aid many of those functions upon which central cities find they must make their greatest relative expenditures--police, fire, hospitals and the like. Instead, after assistance for cash welfare expenditures, the non-educational functional area receiving the greatest amount of state aid is highways, an area in which the greatest relative needs are in rural and suburban areas.

[3] There were six (of twenty-nine) central cities where a withdrawal of such aid caused a larger property rate increase than was simultaneously occurring in their suburbs and two where it caused a larger increase in variable tax burden.

the average suburban property tax rate by 65 percent more than it reduced the average central city tax rate and to reduce the average suburban variable tax burden by some 80 percent more than the reduction in the average central city burden. Had there been no state aid to education, these estimates suggest that both the average suburban property tax rate and the average suburban variable personal tax burden would have risen to exceed the comparable central city value.

On balance, the impact of state aid on this sample of central cities and suburbs appears to be pro-suburban. That appears to have been the result of at least two different forces. First, the degree to which educational aid was pro-suburban exceeded the degree to which noneducational aid was pro-central city, preventing, therefore, the impact of the latter from offsetting the impact of the former. Secondly, the amount of aid to education exceeded the amount of aid for noneducational purposes, allowing the effect of the educational aid to dominate the effect of the noneducational aid.

One notes from the last column of numbers in Table 3 that without any state aid for any purpose, there would have apparently been almost perfect balance between the "average" central city and the "average" suburb contained in this sample. There would have been, on average, no artificial fiscal incentive encouraging businesses to locate in one portion of the metropolitan area or another, and, for all intents and purposes, there would have been neither a fiscal incentive for residential movements into or out of the central

city nor any evidence of inequality in the distribution of the costs of metropolitan public services.

To a certain extent, the introduction of state aid seemed to upset this balance. It was, on the whole, detrimental to the achievement of the objectives set out earlier in this paper.

That state aid had this impact does not, however, mean that the only way to promote the desired metropolitan fiscal balance was to abolish all such aid. State aid for any purpose, including state aid for education, presumably serves purposes other than the promotion of metropolitan fiscal balance. To discard it in the interests of preserving fiscal balance would be as unwise a policy as would be the policy of discarding fiscal balance in order that state aid for education might serve its other purposes. Moreover, the discarding of state aid, especially state aid for education, is not necessary in order that fiscal balance be promoted, for there were at least three other options. These were: (1) To restructure state aid for educational purposes so that its impact was less pro-suburban; (2) to increase state aid for noneducational purposes so that it more effectively offsets the impact of the educational aid, and (3) to restructure the present aid for noneducational purposes either by altering the mix of functions aided or by altering the distribution of aid under each function's formula so as to make the distribution of the present aggregate amount of such aid more pro-central city.

C. Metropolitan Balance and School Finance Reform

Although I have just argued that it is not necessary--and may, indeed, not even be particularly wise--for us to restrict ourselves to advocating alterations in the program of state aid for education as our method of promoting metropolitan fiscal balance, it is useful to spend a few pages here exploring the impact that two rather dramatic shifts in state education aid policies might have had on city by city estimates of tax rates and tax burdens. The first of these is a shift which appears, on balance, to be pro-central city; the second is a shift that appears, on balance to be pro-suburban.

I have simulated the first of these two alternative plans as "Case 1," and presented the city by city results of that simulation in Table 4. For Case 1 I assumed that all state aid to education was abolished and that each local government reacted to this by adjusting its local property tax rates so as to replace 65 percent of its lost state aid. I then made my only substantive foray into the world of relative educational benefits by assuming additionally that each central city adjusted its level of educational spending (and property tax collections) so that its per pupil operating expenditures would be equal to the level of per pupil operating expenditures prevailing in its suburbs. Finally, I further assumed that both central city and suburb then increased their operating expenditures (and property tax collections) by enough to provide an additional sum equal to three times the ESEA

Title I monies each actually received in fiscal 1967. The results of this exercise show, then, the estimated degree and direction of metropolitan fiscal incentives if state aid to education were abolished, all cities were forced to spend on non-Title I students at the same level as did schools in their suburbs, and both city and suburb were forced to fund, from their own resources, compensatory education programs at three times the Title I level.

As can be seen from Table 4, such an alteration in the level of state aid and in the relationship between city and suburban school expenditures is, on balance, quite a pro-central city proposal. Its impact is to drive the average suburban property tax rate up by 0.25 percentage points more than it drives up the average central city property tax rate, an amount sufficient to reverse the direction of the average business location incentive from one favoring suburbs to one favoring central cities. Its impact on variable tax burdens is to drive the suburban burden up by 0.42 percentage points more than it drives up the central city burden, reversing also the direction of the average residential location incentive. Under this simulation, the number of central cities with higher property tax rates than prevail in their suburbs declines from 16 to 11, while the number with higher variable personal tax burdens declines from 16 to 9.

It was noted earlier in the paper that large central cities did, on balance, appear to be at a slight fiscal disadvantage in competing with their suburbs, and some of them appeared to be

Table 4 - Estimated Total Property Tax Rates and Variable Personal Tax Burdens under "Case 1." [1] Selected Large Central Cities and Their Suburbs, Fiscal 1967

City	Property Tax Rates				Variable Tax Burdens			
	cc [2]	Sub [3]	Diff [4]	Change [5]	cc	Sub	Diff	Change
Philadelphia	2.96	2.40	0.56	0.14	5.02	3.90	1.12	0.29
Pittsburgh	2.67	2.68	-0.01	0.26	3.78	3.93	-0.14	0.27
East (Penna.)	2.82 [a]	2.54 [a]	0.28	0.20	4.40 [a]	3.91 [a]	0.49	0.28
Akron	1.56	1.79	-0.23	0.36	3.27	3.40	-0.13	0.55
Cincinnati	1.87	1.64	0.23	0.14	3.57	3.48	0.09	0.23
Cleveland	1.98	1.81	0.17	-0.10	2.26	3.22	-0.96	-0.02
Columbus	1.52	1.80	-0.28	0.16	3.15	3.69	-0.54	0.29
Dayton	1.60	2.05	-0.45	0.41	3.57	3.36	0.21	0.56
Chicago	2.05	1.91	0.14	-0.10	3.81	3.44	0.37	-0.05
Gary	2.31	1.88	0.43	0.14	2.52	2.90	-0.37	0.27
Hammond	2.65	1.88	0.77	0.24	2.77	2.90	-0.12	0.36
Kansas City, Kan.	2.48	1.91	0.57	-0.46	3.48	3.14	0.35	-0.50
Kansas City, Mo.	1.59	2.70	-1.11	0.46	3.37	4.10	-0.73	0.63
St. Louis	2.13	2.09	0.04	-0.16	4.74	3.61	1.13	-0.09
Minneapolis	2.20	3.08	-0.88	0.57	2.70	4.86	-2.16	0.94
St. Paul	2.18	3.08	-0.90	0.59	3.32	4.86	-1.55	0.95
Midwest	2.01 [a]	2.06 [a]	-0.05	0.14	3.27 [a]	3.56 [a]	-0.29	0.27
Birmingham	0.50	1.82	-1.33	1.26	2.74	3.77	-1.03	1.59
Little Rock	0.77	1.58	-0.81	0.65	1.78	2.04	-0.26	0.82
New Orleans	1.45	0.93	0.52	0.04	3.22	2.33	0.88	0.25
South	0.90 [a]	1.44 [a]	-0.54	0.65	2.58 [a]	2.71 [a]	-0.13	0.88
Anaheim	2.42	2.16	0.26	-0.20	5.55	5.33	0.23	-0.30
Santa Ana	1.91	2.16	-0.25	0.11	4.48	5.33	-0.84	0.30
Los Angeles	2.21	2.10	0.11	-0.01	4.67	5.94	-1.27	0.34
Long Beach	1.84	2.10	-0.26	0.19	5.02	5.94	-0.93	0.52
Sacramento	2.70	2.54	0.15	0.16	6.06	5.95	0.11	0.32
San Diego	2.48	2.54	-0.06	0.33	4.14	5.05	-0.90	0.75
San Francisco	1.29	2.09	-0.79	0.24	4.04	5.12	-1.08	0.48
Oakland	1.94	2.09	-0.15	0.04	4.39	5.12	-0.73	0.17
Denver	1.95	2.74	-0.80	0.59	3.72	4.28	-0.56	0.82
Salt Lake City	1.57	1.88	-0.31	0.57	3.03	3.73	-0.70	1.02
Seattle	1.13	1.73	-0.60	0.72	2.72	3.32	-0.60	1.22
West	1.95 [a]	2.22 [a]	-0.27	0.29	4.35 [a]	4.84 [a]	-0.49	0.55
U. S. Total	1.93 [a]	2.08 [a]	-0.15	0.25	3.69 [a]	3.91 [a]	-0.22	0.42

FOOTNOTES

a. Simple average of independent observations.

1. See text for a description of "Case 1."

2. Central City.

3. Suburban Average

4. Difference between Central City and Suburb under simulated plan (i.e., Central City level minus suburban level).

5. Change in the difference between central city and suburbs produced by adopting plan. (i.e., Actual difference minus simulated difference). A positive number signifies that the central city gained relative to its suburbs.

at a "significant" fiscal disadvantage. This particular proposal appears to help improve the relative fiscal position of the average central city. But does this generally pro-central city impact make the proposal simulated good public policy? In general, I would say no. For the proposal seems to create problems where none existed before and to fail to alleviate many of the problems that did exist before.

The places where the adoption of this proposal seems to create problems are a number of metropolitan areas in which prior to its adoption there were not "significantly" large fiscal incentives encouraging movement either into or out of the central city, but where, as a result of its adoption, such significant fiscal locational incentives were created.

With regard to the business location indicator, effective relative property tax rates, there were apparently seven such places where a significant locational incentive is created by the adoption of the proposal. In six of these seven places, the direction of the incentive was toward the central city; in the seventh it was toward the suburbs. With regard to the residential location indicator, variable personal tax burdens, there were apparently six such places where a significant locational incentive was created by the adoption of the proposal. In all of these cases the direction of the incentive was toward the central city.

Moreover, the proposal is not, apparently, very effective in removing those significant locational incentives that existed prior to its adoption. Whereas prior to its adoption there were ten places (six central cities and four suburban areas) having significant incentives against business location, after the adoption of the proposal eight of the ten still had significant incentives against business location. And whereas prior to its adoption there were seven places (four central cities and three suburban areas) having significant incentives against residential location, after the adoption of the proposal, six of the seven continued to have significant incentives against residential location.

Perhaps the only good thing we can say about the proposal is that its adoption serves to eliminate a significant locational incentive in two of the metropolitan areas contained in the sample and, with respect to six of the twenty-nine central cities, it served to neither create nor perpetuate a significant locational incentive. So much for the abolishing of all state educational aid as a program to promote metropolitan fiscal balance.

I have simulated my second alternative as Case 2 and presented city by city results in Table 5. For the purpose of this simulation, I assumed the adoption of a district power equalizing plan with the following features: (1) That each state

converts all of its state aid into a DPE program featuring recapture of revenues from wealthier districts; (2) That each state sets the per pupil property value level at which it will power equalize at that level which, were the state average education property tax rate to remain unchanged, would result in a 33 percent increase in aggregate state aid to education; and (3) That each school district then adjusts to the program by altering its property tax rate in such a way that at the new tax rate, 35 percent of any increase in state aid over the level actually received has gone into increased educational spending and 65 percent has gone into property tax relief.[1]

As anyone familiar with previous work on large cities and school finance reform already knows, and as the data in Table 5 clearly indicates, this rather pure DPE plan represents something of a pro-suburban program. Its adoption would apparently have caused the "average" suburban property tax rate in this sample to decline by 0.19 percentage points more than did the average central city property tax rate, resulting in an expansion of the gap by which the average central city exceeded the average suburb to some 0.29 percentage points. It would have increased the number of central cities having higher effective

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[1] In such a world the new property tax rate is found by solving for x in the following equation:

$$.65\ [(GV-AV)x - SA] = PT - x(AV)$$

Where: X = The new property tax rate
GV - The level of per pupil property value guaranteed by the state

Table 5 - Estimated Total Property Tax Rates and Variable Personal Tax Burdens under "Case 2." [1] Selected Large Central Cities and Their Suburbs, Fiscal 1967

City	Property Tax Rates				Variable Tax Burdens			
	cc [2]	Sub [3]	Diff [4]	Change [5]	cc	Sub	Diff	Change
Philadelphia	2.44	1.73	0.72	-0.01	4.74	3.19	1.55	-0.14
Pittsburgh	2.54	1.94	0.60	-0.35	4.01	3.48	0.53	-0.41
East (Penna.)	2.49 [a]	1.84 [a]	0.65	-0.17	4.38 [a]	3.34 [a]	1.04	-0.27
Akron	1.41	1.24	0.18	-0.05	3.06	2.53	0.52	-0.11
Cincinnati	1.80	1.34	0.46	-0.10	3.48	2.99	0.49	-0.17
Cleveland	1.79	1.66	0.13	-0.06	2.06	2.97	-0.91	-0.08
Columbus	1.21	1.24	-0.04	-0.09	2.71	2.78	-0.07	-0.18
Dayton	1.56	1.42	0.13	-0.18	3.50	2.51	0.99	-0.22
Chicago	1.80	1.43	0.37	-0.33	3.50	2.67	0.83	-0.51
Gary	2.08	1.60	0.49	0.09	2.28	2.47	-0.18	0.08
Hammond	2.49	1.60	0.90	0.12	2.61	2.47	0.14	0.10
Kansas City, Kan.	1.44	1.11	0.32	-0.22	2.19	1.95	0.24	-0.39
Kansas City, Mo.	1.34	1.70	-0.36	-0.28	3.08	2.79	0.29	-0.39
St. Louis	1.52	1.43	0.09	-0.22	4.04	2.64	1.40	-0.37
Minneapolis	2.23	1.98	0.25	-0.57	2.73	3.17	-0.44	-0.78
St. Paul	2.24	1.98	0.26	-0.57	3.39	3.17	0.22	-0.82
Midwest	1.76 [a]	1.47 [a]	0.29	-0.20	2.97 [a]	2.68 [a]	0.29	-0.31
Birmingham	0.57	0.54	0.03	-0.10	2.82	2.12	0.70	-0.14
Little Rock	0.82	0.70	0.11	-0.28	1.85	1.00	0.85	-0.29
New Orleans	0.80	0.47	0.34	0.22	3.10	2.20	0.91	0.22
South	0.73 [a]	0.57 [a]	0.16	-0.05	2.59 [a]	1.77 [a]	0.82	-0.07
Anaheim	1.63	1.46	0.17	-0.11	4.04	3.85	0.19	-0.26
Santa Ana	1.41	1.46	-0.05	-0.09	3.52	3.85	-0.33	-0.22
Los Angeles	1.75	1.62	0.13	-0.03	3.96	4.76	-0.80	-0.14
Long Beach	1.70	1.62	0.08	-0.16	4.72	4.76	-0.04	-0.37
Sacramento	1.99	1.55	0.44	-0.13	4.69	3.99	0.70	-0.27
San Diego	1.84	1.52	0.32	-0.04	3.28	3.23	0.05	-0.20
San Francisco	1.42	1.60	-0.18	-0.37	4.35	4.09	0.26	-0.86
Oakland	1.70	1.60	0.10	-0.20	3.94	4.09	-0.15	-0.41
Denver	2.01	1.71	0.30	-0.50	3.80	2.80	0.99	-0.73
Salt Lake City	1.40	0.97	0.43	-0.17	2.79	2.13	0.66	-0.34
Seattle	1.05	0.75	0.30	-0.18	2.59	1.66	0.93	-0.32
West	1.63 [a]	1.40 [a]	0.23	-0.21	3.79 [a]	3.31 [a]	0.48	-0.42
U. S. Total	1.65 [a]	1.36 [a]	0.29	-0.19	3.34 [a]	2.83 [a]	0.51	-0.31

FOOTNOTES

a. Simple average of independent observations.

1. See text for a description of "Case 2."

2. Central City.

3. Suburban Average.

4. Difference between Central City and Suburb under simulated plan (i.e., Central City level minus suburban level).

5. Change in the difference between central city and suburbs produced by adopting plan. (i.e., Actual difference minus simulated difference). A positive number signifies that the central city gained relative to its suburbs.

property taxes than those in their suburbs from 16 to 25, leaving only 4 with lower effective property tax rates. The adoption of this variant would have reduced average suburban variable personal tax burdens by some 0.31 more than the reduction in average central city burdens, opening up a gap between the two of some 0.51 percentage points in favor of the suburbs, and increasing the number of central cities with greater relative burdens from 16 to 21.

Judging only on the basis of its impact on fiscal locational incentives, is there any thing in this analysis that commends Case 2 as being good public policy? Again I would have to say probably not, although I find slightly more to commend this variant than I found to commend the Case 1 variant.

The proposal simulated as Case 2 would, apparently, create problems in a number of metropolitan areas, especially for the central city. Under the proposal, the number of central cities which appeared to offer "significant" encouragement for the suburbanization of business rose from seven to eleven, and the number which appeared to offer "significant" encouragement for

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MV = The actual level of per pupil property value in the district

PT = The level of per pupil property taxes prior to the change

SA = The level of state aid per pupil prior to the change

residential suburbanization rose from four to eight.[1] There were no central cities offering significant encouragement for suburbanization prior to the adoption of the proposal that did not also offer significant incentives after its adoption.

The proposal rates mixed reviews on its ability to remove significant incentives against suburbanization that existed with respect to six central cities prior to its adoption. With respect to effective property tax rates, the number having such anti-suburbanization incentives dropped from four to one; but with respect to variable tax burdens, the number having such anti-suburbanization incentives dropped by only one, from three to two.

There do appear to be a few redeeming features to this proposal. For one thing, there were three central cities in which one or the other type of significant locational incentive in favor of the city was eliminated by the adoption of the variant, without it being replaced with a significant locational incentive in the other direction. That is one more than the number of such "success stories" recorded under the earlier variant.

Additionally, there were seven central cities which did not offer a significant incentive in either direction prior to the adoption of the variant and also did not offer one after its adoption. That is one more than the number of such unaffected places than were found under the Case I simulation.

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[1] The data in Table 5 suggest that the number of places having significant incentives against central city business location should be thirteen instead of eleven. However, before rounding to two decimal places, the difference between the central city property tax rate and the suburban property tax rate was less than 0.30 percentage points in both Denver and Seattle.

All in all, though, this particular proposal seems to rate the same judgment that was given to the earlier proposal. That is, it seems to create more problems than it solves.

Although I have certainly not exhausted the potential list of particular school finance reform plans that could be simulated, my two examples do serve, I think, to illustrate one more point with respect to the problem of promoting metropolitan fiscal balance through school finance reform: the fiscal effects of a particular plan which appears, on balance, to favor, say, central cities over suburbs, may not appear upon closer examination to be quite so advantageous as was first thought. That is because it can easily end up not favoring enough those cities that most need favoring while at the same time it favors too much those cities that least need favoring.

IV. Summary and Conclusions

My agenda in this paper has been four-fold. First, I have sought to demonstrate one way in which the analysis of educational finance reform might be broadened to include an analysis of the fiscal effects of such reform. I have used as an example of such a fiscal analysis the analysis of the impact of reform on fiscal competition between large cities and their suburbs.

The application of this particular way of looking at school finance reform to this particular question is one which I find to have appeal. I think the question being addressed is an important one, and I think that the potential impact of school finance reform on it is significant. Moreover, I believe that this particular kind of analysis provides us with a structure within which we are

able to derive, if somewhat crudely, a set of objective measures applicable to the question of whether or not a given locality "deserves" additional aid, and if it does, how much additional aid it deserves.

Second, I have sought to show that, at least with respect to this one set of standards, it is not possible to say that "most central cities" or "most suburban areas" deserve a greater share of state educational aid. Rather, there appears to be significant variation among metropolitan areas in the relative fiscal position of the central city. In some areas there is clearly an argument to be made for giving greater financial assistance to the city, but in other areas--perhaps somewhat fewer in number--the same logic seems to argue for giving greater financial assistance not to the cities but to the suburbs.

Third, I have tried to point out that school finance reform is not the only state policy that has potentially significant fiscal effects. I couched my discussion to include the role of altering the amount of or pattern of distribution of state noneducational, but I could have easily also explored the role that the giving to localities of greater authority to levy nonproperty taxes--especially "commuter" taxes--might play or the impact that redefinitions of what constitutes taxable property might have.

The evidence presented in this paper suggests that state aid to local education is already a pro-suburban program. That assembled by other researchers has indicated that a reform of

school finance is likely to make it even more pro-suburban.[1] Whether we like it or not, the simple fact of the matter is that, by and large, it is in the suburbs that the greatest fiscal burdens for education are found. As a consequence, any movement to increase the role of state aid in financing local education is going to have the impact in most metropolitan areas of helping the suburbs more than it helps the central city.

It is the fact of this generally pro-suburban impact that makes it important for us to remember that school finance reform is not the only game in town. Thus, while I argue that we should analyze the fiscal effects of school finance reform, I would also argue that a consideration of its fiscal impacts need not provide the single criteria by which we decide to adopt or reject a given reform plan. If after determining that a given reform plan has favorable educational effects we then discover that it has unfavorable fiscal effects, we may well decide to reject the reform plan. But we could also decide to accept the reform plan while at the same time placing it in combination with another measure that served to offset its undesirable fiscal effects. And there are undoubtedly an almost limitless number of additional measures with potentially offsetting fiscal effects.

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[1] Studies typically find that, taken as a group, suburbs neither gain nor lose under school finance reform, but taken as a group, large cities do lose. Thus, cities lose relative to their suburbs.

Finally, I have sought to show by recourse to two examples that there is probably no one single optimal school finance reform plan lurking around out there just waiting to be discovered. A particular plan which appears, in general, to impart a particular pro or anti-central city bias to school finance reform may indeed produce favorable fiscal effects in a few metropolitan areas. But it is likely that in the process of improving the situation in a few metropolitan areas, the same plan will work in other metropolitan areas to not offer significant assistance to places that seem to deserve it, and will work in still other metropolitan areas to destroy the fiscal balance that had previously existed.

I suspect that if this kind of analysis were undertaken on a more systematic--and, perhaps, more rigorous--basis at the state level we would find that the particular school finance reform program that seems to work best in one state may not work at all in another. I see no reason, however, why that should bother us. We may well also find that school finance reform can produce both favorable educational and favorable fiscal effects in most parts of many states only when it is coupled with alterations in other elements important to the local fiscal picture. That, I submit, should not bother us either.

The analysis of how each potential combination of education and noneducation fiscal reforms can impact on one city or another is well beyond the scope of this paper. But I am confident that

with a little imagination one could derive a package of reforms that, in a given state, produced for almost every region both favorable educational impacts and favorable fiscal impacts.

APPENDIX

A. Data Sources

1. U.S. Bureau of the Census, 1960 Census of the Population, 1970 Census of the Population: Population, 1969 per capita income, 1970 intrametropolitan commuting patterns.

2. U.S. Bureau of the Census, 1967 Census of Governments: Taxes, expenditures, assessed property values of cities and countries, assessment ratios, composition of property tax base.

3. U.S. Bureau of the Census; City Government Finances in 1966-67: Additional data on taxes and expenditures.

4. U.S. Bureau of the Census, Statistical Abstract of the United States: State-wide estimates of 1967 and 1969 per capita income.

5. U.S. Department of Health, Education, and Welfare 1967 Educational Directory: October 1966 school enrollments.

6. National Education Association, "Selected Statistics of Local School Systems, 1966-67. "Research report 1968-R11: Assessed value of property within school district.

7. U.S. Office of Education, Unpublished Reports: Distribution of Title I Monies by County and School District.

B. Computational Procedures

1. 1966-67 Population Estimates for each jurisdiction were generated by geometric interpolation based on 1960 and 1970 data.

2. 1967 per capita income estimates for each jurisdiction were produced by multiplying 1969 per capita income by the statewide ratio of 1967 to 1969 per capita income for the state within which the jurisdiction was located.

3. Taxes, Intergovernmental aid, and Expenditures of overlying county and special district governments were allocated between city and suburb on the basis of: (1) Population, for aid and expenditure items; (2) Market value of taxable property, for property taxes; (3) Aggregate retail sales, for sales taxes; and (4) Population, for all other taxes.

4. Where school district boundaries were not coterminous with the central city, school finance and enrollment magnitudes were adjusted to reflect estimates of what they would have been in the presence of such coterminality. Adjustments were based on the ratio of assessed value of property in the school district to assessed value of property in the municipality. Any

increase in central city enrollments, taxes, aid, or expenditures that were produced by this adjustment were deducted from the suburban total. Any decreases were added to the suburban total.

5. Estimates of the market value of taxable property were generated by dividing the reported assessed value of taxable property by the average sales based assessment ratio for single family residences in each jurisdiction. (A more comprehensive assessment ratio estimate was available for the central cities, but was not used due to the unavailability of a similar figure for suburban counties).

6. Estimates of the market value of taxable residential property were derived by multiplying the estimate of the market value of all taxable property by the reported fraction of all taxable property that consisted of residential real property (including farms).

7. Estimates of the distribution between city and suburb of the liabilities of local income taxes were based on 1970 census data on employment location. For instance, if a local income tax was levied on all incomes earned in the city and on all incomes earned by residents outside of the city, and if no offsets were allowed for local

taxes paid to other jurisdictions, it was assumed that the fraction of collections exported was equal to the ratio of the number of suburban residents employed in the city to the total of the number of persons employed in the city plus the number of residents of the city employed outside of the city. Where offsets were allowed for taxes paid elsewhere, and income taxes were levied by suburban communities, the estimate of the fraction exported was derived by dividing the number of nonresidents employed in the city by the total number of persons employed in the city.

8. Estimates of the distribution of local sales tax collection were based on the relationship between local retail sales and local personal incomes. Basically, it was assumed that the ratio between the total retail sales made to residents of a given jurisdiction and the incomes of the residents of that jurisdiction was constant throughout any given metropolitan area. Any retail sales occurring in a given jurisdiction that exceeded the amount that could be attributable to the residents of that jurisdiction based on multiplying their income by the metropolitan-wide ratio of sales to income were assumed to have been made to residents of another jurisdiction. The fraction of the sales tax assumed to be exported was, therefore, equal to the fraction that estimated sales to nonresidents were of total sales.

C. Definition of Suburban Areas

The suburban regions of each metropolitan area were defined as follows:

City	Suburban Counties
Philadelphia	Bucks Chester Delaware Montgomery
Pittsburgh	Allegheny (Balance)
Akron	Portage Summit (Balance)
Cincinnati	Hamilton (Balance)
Cleveland	Cuyahoga (Balance) Lake
Columbus	Franklin (Balance)
Dayton	Greene Miami Montgomery (Balance)
Chicago	Cook (Balance) Da Page Kane Lake McHenry Will
Gary-Hammond	Lake (Balance) Porter
Kansas City, Kan.	Johnson Wyandotte (Balance)
Kansas City, Mo.	Clay (Balance) Jackson (Balance)
St. Louis	St. Louis
Minneapolis-St. Paul	Anoka Dakota Hennepin (Balance) Ramsey (Balance)

City	Suburban Counties
Birmingham	Jer Jefferson (Balance)
Little Rock	Pulaski (Balance)
New Orleans	Jefferson
Anaheim-Santa Ana	Orange
Los Angeles-Long Beach	Los Angeles (Balance)
Sacramento	Placer Sacramento (Balance) Yolo
San Diego	San Diego (Balance)
San Francisco-Oakland	Alameda (Balance) Contra Costa Marin San Mateo
Denver	Arapahoe Jefferson
Salt Lake City	Salt Lake (Balance)
Seattle	King (Balance) Snohomish